

Covanta Haverhill, Inc.
Material Separation Plan VII for Mercury Containing Products
January 1, 2018 - December 31, 2020

Revised October 5, 2017

Purpose: Compliance with 310 CMR 7.08(2) Regulations Governing Municipal Waste Combustors

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I. Background and Purpose

In 1998, the Massachusetts Department of Environmental Protection (MassDEP) promulgated regulations 310 CMR 7.08 (2) governing municipal waste combustors (MWCs). Section 310 CMR 7.08(2)(f)(7) required MWCs to submit Material Separation Plans (MSP) that describe the actions that the MWC will take for the removal of mercury-containing products from the waste stream. The MSP must be developed in accordance with the MassDEP's "Material Separation Plan Guidance Document" revised June 29, 2001.

Covanta Haverhill (formerly Ogden Martin Systems of Haverhill, Inc) developed its first Material Separation Plan for the removal of mercury and mercury containing products and submitted the proposed plan on October 31, 2000. MassDEP reviewed the Plan and issued final approval on February 2, 2001. The first MSP program was conducted from February 2001 until July 2002. Subsequently, the MSP II program ran from July 2002 to June 2004. MSP III ran from July 2004 to December 31, 2006, MSP IV ran from January 1, 2007 to December 31, 2009, and MSP V ran from January 1, 2010 to December 31, 2012. MSP VI ran from January 1, 2012 to December 31, 2017

In 2004, the MSP timelines were revised by MassDEP to provide sufficient opportunity for review of annual reports, development of future MSP plans, review by MassDEP, and the finalization of the plan. In accordance with those new timelines, MSP VII covers a 3 year planning and implementation period with an option for a two year extension. The 3 year period covers from January 1, 2018 through December 31, 2020. If implemented, the two year extension would cover the period January 1, 2021 through December 31, 2022. In the body of this document, a period of 3 years has been used to calculate cost of tasks and total cost of the program.

The following proposed seventh Material Separation Plan (MSP VII), similar to previous MSPs, has been based on the MassDEP "Material Separation Plan Guidance for Municipal Waste Combustors" revised June 29, 2001.

II. Overview of the MSP VII.

A. Goals

The overall goals of the MSP VII continue to be:

- Comply with applicable Massachusetts regulations;
- Implement a program that builds on existing programs, to the extent practicable;
- Coordinate with other MSP programs being implemented to minimize redundancy and make the best use of the resources being spent on this mercury diversion effort;
- Expand public awareness about mercury;
- Divert mercury products from the solid waste stream;
- Reduce the use of mercury-containing products; and
- Increase participation in mercury recycling/reduction programs

Please note that the MSP is only a planning document. Statements regarding projected diversions of mercury containing waste, budget categories, etc. are provided in response to Mass DEP requests for estimates of anticipated program results. They are not intended to serve as enforceable commitments.

As recognized in the Mass DEP Guidance document, there is a steep learning curve to change people's behaviors and obtain participation in the various material separation plan activities. Despite many years of the MSP, experience has proved that it will continue to be a long-term process. In a large part, because of the difficulty in measuring behavioral change, it remains unclear how the public-at-large, businesses and municipal / institutional waste generators are responding to the different programs.

B. MSP VII Development Process

The following discussion summarizes the MSP VII development process and reviews stakeholder input from communities in the Covanta service area including recycling coordinators, use of outside consulting help, and research/modeling that was done.

As noted above, Covanta and other municipal waste combustors continue to obtain experience in changing people's behaviors to encourage participation in the MSP.

Therefore, Covanta and Wheelabrator, collectively, "the MSP group", continue to utilize its trade organization, Energy Recovery Council (ERC) to assist in the development of the public education and information campaign. The Energy Recovery Council (formerly the Integrated Waste Services Association) is a national waste management trade association that includes Covanta and Wheelabrator, among others.

1. Coordination with MassDEP: As part of MSP VII planning, Covanta Haverhill met with MassDEP Boston staff in spring 2017 to review the results of the previous year's MSP efforts and discuss ideas for MSP VII. Since then, Covanta has participated in a series of informational and policy meetings with MassDEP staff and management.

The MSP group has also met independent of MassDEP to evaluate how to coordinate programs and minimize redundancy, to facilitate access to mercury diversion programs and maximize commercial, institutional and public participation in programs.

The MSP group will continue to meet and discuss how to best maximize participations in the programs. MassDEP has continued to provide Covanta and the MSP group with various informational documents related to mercury recycling, universal waste and mercury separation programs including lists of MassDEP universal waste shed grants, contacts for local/regional environmental organizations and waste grants.

2. Coordination with Recycling Coordinators and Community Stakeholders: As part of MSP VII planning, in 2017, Covanta Haverhill held quarterly meetings at the facility where it presented its MSP VII ideas to its contract communities' recycling coordinators and the applicable MassDEP Municipal Assistance Coordinators (MACs). This continuing communication fosters information sharing between the municipalities and helps to ensure that the MSP VII implementation will continue to proceed in a coordinated, non-duplicative way.

3. Environmental/Citizen/Health Community Outreach

To aid in the development of the MSP VII, Covanta conducted meetings with "stakeholders" to solicit input and comments. This included municipal officials, environmental groups and local citizens of the Covanta contract municipalities.

4. Summary of Suggestions:

Suggestions made at the meetings included continuing to:

- Expand outreach/educational efforts to include civic groups
- Provide banners or sign-boards at hardware stores that collect bulbs;
- Contact local cable stations to air public service messages on mercury awareness;
- Place signs about recycling bulbs at points of sale;
- Expand the thermostat take-back program to residents;
- Provide mercury product collection points (hardware stores, transfer stations, boards of health) with easy to use CFL storage boxes that could be distributed to residents for short term CFL storage until they return them back to the collection center

- Provide outreach to educate the public about the MassDEP's Hg Product Collection Center Locator tool. The website may be viewed at:
(<http://maps.env.state.ma.us/dep/arcgis/js/templates/SafeMercuryDisposal>).

C. MSP VII Target Sectors

Based on the results of Covanta's experience with previous MSPs, it appears that hospitals, schools, and municipalities are the most responsive to mercury diversion programs and they will continue to be a major focus during the MSP VII.

Schools within the Covanta contract communities will continue to see outreach/education efforts focusing on proper management of mercury containing products.

The general public will continue to be invited to participate in diversion programs such as mercury collection events, thermometer exchanges, thermostat collections, Household Hazardous Waste (HHW) collections and other events, as appropriate.

Residents and small businesses will be targeted for the Mercury Product Collection Program.

Contractor/trades people (plumbers, electricians, etc.), utility companies, wholesalers and retailers will continue to be targeted for the Contractor Device Collection program.

Municipal water and sewer departments will be contacted to determine whether they still have mercury flow meters in use or in storage so that they can take advantage of our program.

Municipal government departments and agencies (Health Department, DPW, etc) will be targeted for municipal recycling efforts such as the mercury collection events, thermometer exchanges and support for HHW events.

Covanta municipal electric utilities will be targeted to help recycle their mercury containing products and to enlist their aid in promoting mercury product recycling to their customers.

In each of these programs, specific activities, designed to achieve the MSP VII overall objectives, are identified and supplemented with timelines and budget estimates. Some of these activities will continue to overlap although the targeted audiences for each are different. As these activities continue to be implemented, Covanta will assess the effectiveness of each with the intention of modifying, in conjunction with the MassDEP, various elements of the outreach initiative, as needed, to make them more effective.

D. Target Areas

In MSP VII, Covanta will continue to implement its program activities in all of its twenty eight (28) contract communities located in Massachusetts and New Hampshire. The communities are as follows: Bedford, Bedford, NH, Burlington, Chelmsford, Danvers, Derry, NH, Dracut, Essex, Greenland, NH, Groton, Hampton Falls, NH, Harvard, Haverhill, Littleton, Middleton, Peabody, N. Reading, Reading, Salem, Stoneham, Swampscott, Tewksbury, Tyngsboro, Wakefield, Westford, West Newbury, Winchester, and Windham, NH. These communities have chosen to enter into a direct contract with Covanta Haverhill for waste disposal services.

Some municipalities choose to contract with a third party vendor for waste disposal into Covanta Haverhill. In this scenario, the third party vendor has established a commercial contract with Covanta. If the municipality is able to provide documentation in support of waste material being delivered exclusively to Covanta Haverhill, portions of the program may be offered to that community.

Based upon the experience gained in previous MSP's, different outreach techniques will be utilized for different towns, based upon size, population, and their willingness to participate in various activities. Details of these efforts are explained in following sections.

III. Proposed MSP VII Activities 01/01/18 -12/31/20

A. ERC/CET Outreach/Education

1. Activity Description:

Covanta Haverhill, together with the MSP group, will continue using the services of the ERC, its industry group, to achieve economies of scale by collectively developing appropriate educational materials and conducting an effective outreach program to the affected public (businesses, municipalities, households, etc.).

Covanta Haverhill will also use the services of Center for EcoTechnology (CET). The function of CET is outlined in Appendix A

In addition, Covanta Haverhill, as part of the MSP group, will review the “Keep Mercury from Rising” website and update as necessary with product changes and municipal collection locations.

2. Activity Evaluation:

This activity will be measured and evaluated by documenting the outreach activities that are completed during the year. A summary of this information will then be provided in the MSP annual report.

3. Activity Budget:

For the ERC & CET component, Covanta has budgeted \$47,500/year for a total of \$142,500 for the 3 year period. See details of these costs in Appendix A for CET.

The public education effort, as described, is conditioned on all members of the MSP group providing adequate funding. The cost figures provided herein represent only Covanta Haverhill's share of the public education effort based on a sharing formula agreed to by the MSP group.

MADEP should be aware that if funding falls below the level anticipated because another MSP group member does not agree to fund at a certain level, then all the public education efforts might not be completed as planned.

B. Facility-Level Outreach/Education

1. Activity Description:

All plan activities will be conducted under the guidance of the Covanta MSP program manager. In addition, Covanta is budgeting for consultant support to help conduct the many outreach/education activities detailed in the MSP VII. Some of the facility level outreach activities will include:

- Working with contract municipalities to distribute information to the public regarding the Massachusetts Mercury Management Act;
- Researching existing municipal Hazardous Waste\ Mercury collection programs to determine how Covanta can support such programs;
- Incorporating more businesses into the MSP VII activities. Work will include door to door outreach and phone call campaigns in each target town to establish contacts, explore their current practices and work to determine easiest way for them to participate in Hg product recycling. Additional description of these efforts is included in following sections under each activity's outreach methods;
- Coordinating with ERC and/or a local advertiser to publicize program activities;
- Working with municipal officials to incorporate information on Covanta's Hg MSP activities into their advertisements for household hazardous waste collection programs, brochures for municipal recycling programs and mass mailings that are sent to residents and businesses from the municipal tax assessment, recycling, water or electric departments. Covanta will provide the outreach brochures to the municipalities and will cover any additional costs associated with the mailings;
- Continue MSP outreach with the business community by working with the local Chambers of Commerce, Rotaries, League of Women Voters, and other business associations. Plan to hold ten (10) informational meetings per year in an ongoing effort to maximize communication about the program to the business community;
- Expand the informational meetings to include Realty Groups, Senior Centers, American Legions, and similar community organizations stressing the need to collect for recycling elemental mercury in particular.
- Continue to send press releases detailing MSP event successes to newspapers and other media to provide program feedback to the residents and the business community;
- Continue contact and communication efforts with community/public sector leaders and environmental/activist groups, which have an interest in, or are already engaged

in mercury diversion programs;

- Continue contact with mayors, state representatives, congressmen, educators, and other opinion leaders to inform them about Covanta's program and gain their support for it;
- Continue with outreach efforts in the health care fields, including veterinarian clinics;
- Increase use of public service announcements in newspapers, community TV and other media avenues.
- Work with MADEP MACs, as well as contract community municipal recycling coordinators to get information out to the communities on the facility's MSP activities;
- Attempt to work with area utilities such as National Grid, Bay State Gas, Littleton Electric Light & Water Depts. Efforts would include an mercury outreach table at any energy efficiency seminars.
- Work with contract communities on passing bylaws requiring proper adherence to mercury regulations by tradesmen getting remodeling permits. Tradesmen should include methods to be used for recycling any mercury products removed.

2. Activity Evaluation:

This activity will be measured and evaluated by documenting the outreach activities that are completed during the year. Where possible, the numbers of attendees and participants will be documented. A summary of this information will then be provided in the MSP annual report.

3. Activity Budget:

For the 3 year period, Covanta has budgeted \$148,500/ year for this component to cover the Covanta MSP program management costs, special outreach/collection advertisements, and consultant education\ outreach program for a 3 year total of \$445,500.

Covanta MSP program management costs includes the MSP program manager's salary, benefits, and expenses; office support personnel costs related to MSP, Covanta management MSP oversight costs, share of office costs including telephones, utilities, postage, etc and future development costs for MSP VII.

On a routine basis, the MSP manager meets with Covanta management to review results, discuss problems and make changes. In addition, Covanta management is extensively involved with MSP development including plan review & revision, meetings with industry reps and meetings with MADEP

C. Mercury Product Collection Program

1. Activity Description

This activity will target the diversion of mercury containing products from residents, municipal departments and community small businesses.

Listed below is a list of mercury product collection options that are available to Covanta's contract communities.

- a) **Municipality Reimbursement Program:** In order to assist communities with the costs associated with mercury product recycling, Covanta will continue to reimburse any Covanta contract community for the costs incurred in the collection, storage and recycling of residentially and/or municipally generated mercury containing products (fluorescent lights, thermostats, thermometers, button batteries etc.), items collected at one-day Mercury Collection Events or at permanent facilities (either permanent HHW centers or Universal Waste Sheds) or as previously mentioned.
- b) **Municipal Department Collections:** Another popular option for municipal departments, schools, and non-profit institutions is for Covanta to schedule pickup of bulbs directly from their location. This limits the municipality's labor and possibility of breakage
- c) **Small Business Collection Events:** For some of Covanta's communities, their small businesses can bring their Hg products directly to the municipality's collection shed where residents drop off. For communities that don't allow this option, Covanta will offer to hold separate Small Business Collection Events. This includes: Danvers, Haverhill, Middleton, and Wakefield.

These are two hour periods on specific days when the Covanta MSP Coordinator accepts mercury products including button batteries from businesses and places the items in the shed for future pickup. These special collections are advertised in local papers as well as a mass mailing that precedes them.

An event is organized every two (2) months during the spring/summer/fall. This option is used for the bordering communities of Danvers and Middleton. These events are held alternating between the transfer stations of those towns. Both Danvers and Middleton's businesses, as well as neighboring Outreach is accomplished through advertising in local papers, large posters are distributed to businesses, and a mass mailing is sent to the local businesses. This approach will continue to be used throughout MSP VII.

- d) **Small Business Mailers:** Other Hg product recycling options that Covanta will work on during MSP VII include: shipment of mercury items using pre-paid mailers such as Veolia's RecyclePac, or direct shipments of products to the recycler under Covanta's 50% reimbursement program. In addition, many local retailers have agreed to accept bulbs from customers of Covanta. In this

option, the retailer is supplied with small labeled boxes to be used for spent compact fluorescent bulbs (CFLs). These boxes are given to customers when replacement bulbs are purchased. This box serves as a reminder to return the spent CFLs back to the store in the future.

- e) **Resident Rebates:** New for MSP VII, Covanta will explore offering residents an incentive to return thermostats when they attend Covanta manned collection events and/or community outreach events such as town festivals and fairs.

2. Activity Outreach

The ERC campaign, as discussed above, will be an important component of the outreach campaign. The ERC campaign consists of public service announcements, radio spot advertisements and Web-based tools.

Complemented by this broad ERC campaign, additional outreach and educational efforts will be conducted by the Covanta MSP program manager and consultant support. The following initiatives will continue to be conducted specifically for this activity:

- With the assistance of the municipalities, designate locations, dates, and staff for these collection events;
- Determine the availability of municipal personnel and/or environmental group volunteers to assist with these events, if necessary;
- Place advertisements in local papers for single Collection Events. Other ads will be placed for certain towns to advertise their year round drop off locations for Hg recycling such as the local transfer station;
- Coordinate with ERC's contractor (website) to publicize this program to residents and small businesses on the MSP website;
- Coordinate with local media to advertise and/or publicize this program to residents and small businesses;
- Develop initiatives to incorporate small businesses into the programs such as notices on MADEP letterhead asking for cooperation;
- Continue to coordinate with municipal officials in efforts to develop official event notices to residents and small businesses;
- Work with municipal officials to incorporate Covanta's Hg MSP activity information onto the town's recycling brochures and HHW event notices;
- Work with municipal officials to attach Covanta's Hg MSP brochures with the town's mass mailings (tax bills, water bills, electric bills, etc) to residents\businesses;

- Continue to utilize the municipalities' existing system for advertising household hazardous waste collection programs;
- Develop additional advertising sign boards and large street banners to advertise a collection event or advertise the town's year round drop off option. Work with local officials to determine proper location to place banners/boards; and
- Work with Covanta sponsored community events, such as fall festivals, Christmas fairs, etc, to advertise MSP activities as well as an invitation to stop by and visit the Covanta outreach table.
- Increase the public's awareness of mercury, health and environmental issues surrounding mercury content products, and the potential impacts of improper disposal;
- Increase collection of mercury containing products;
- Creation of a sustainable, highly beneficial, low cost program;
- Increased participation of communities with limited resources by supporting the residential collection program through subsidized mercury product collections;
- Supplying them with a Universal Waste Shed and reimbursing the cost of recycling the residentially and municipally generated materials;
- Periodically inventory transfer station sheds for spill kits, replace if missing; and
- Offer each community's Hg product handlers Hg spill training by an experienced consultant.
- Outreach for this activity consists of Covanta's MSP program manager continuing to meet with local municipal officials (DPW, Boards of Health, public utilities, recycling coordinators, etc.) to explain the benefits of our program and soliciting their participation in the numerous activities that we support: Universal Waste Shed Grants, thermometer exchanges, mercury product collections, in addition to the reimbursement offered to municipalities for collecting and recycling mercury containing products generated by municipal buildings, residents or, if allowed by the municipality, small businesses.

3. Activity Evaluation

This activity will be measured and evaluated by determining when possible, the number of contacts made, the level of business participation and the amount of wastes diverted, such as the number of devices/bulbs collected, and the equivalent quantity of mercury diverted from the waste stream. A summary of this information will then be provided in the MSP annual report.

This activity will be measured and evaluated by documenting equipment/support provided to each municipality and determining the amount of waste collected and the equivalent amount of mercury diverted from the waste stream. A summary of this information will then be provided in the MSP annual report.

4. Activity Budget

For the MSP VII, Covanta is budgeting \$47,000/ year for this activity for a three year total of \$141,000. Costs include advertising costs, event outreach costs, recycling contractor's labor/ transportation costs, mercury recycling costs

D. Thermometer Exchange Program

1. Activity Description

Massachusetts Law (Chapter 39 of the Acts of 2002) banned the sale of mercury fever thermometers. Since then, Covanta has observed that the number of the thermometers being exchanged has been declining steadily.

In past MSPs, Covanta has worked with its communities to conduct thermometer exchange events in connection with the town's annual flu clinics. At these events, residents could drop off Hg thermometers and receive a non-Hg replacement.

For MSP VII, Covanta will continue to support this activity in all Covanta contract municipalities that wish to continue to participate. For MSP VII, Covanta will expand these programs to allow residents to also drop off thermostats.

Thermometer swaps/exchanges and thermostat collections are an extremely effective tool in helping to educate the general public on mercury issues while helping to remove a potential mercury waste material and health hazard from the home.

As in the past, Covanta will conduct the swaps/exchanges/collections in conjunction with the Boards of Health, Recycling Committees or other municipally designated entity.

Ideally, dates and/or locations will be chosen that take advantage of other activities occurring in the municipalities that will enhance program exposure and improve participation.

Advertisements will be placed to encourage residents to utilize this option. The collection of spent mercury thermostats will also be included in all advertisements/notices.

Covanta has purchased digital thermometers and will continue to make them available for distribution in the swaps/exchanges.

Thermostats turned in will not be replaced, however an incentive for residents will be explored to encourage participation.

Covanta will work closely with local boards of health that issue permits/make inspections to insure mercury product recycling is included.

2. Activity Outreach

Covanta's MSP program manager will maintain contact with the Boards of Health, Recycling Committee or other municipally designated entity, as appropriate, to facilitate thermometer exchanges/thermostat collections in the Covanta contract municipalities. The MSP program manager will coordinate delivery of the digital thermometers, pails and spill kits for use during the collection and arrange for pick-up and recycling of the collected material. Covanta will offer spill kits to each board of health. Covanta will publicize the events utilizing posters, notices, road side sign boards/banners and advertisements in local newspapers.

3. Activity Evaluation

This activity will be measured and evaluated by determining the amount of thermometers\thermostats collected and exchanged and the equivalent amount of mercury diverted from the waste stream. A summary of this information will then be provided in the MSP annual report.

4. Activity Budget

For the MSP VII, Covanta is budgeting \$4,000/ year for this activity for a three year total of \$12,000. Costs include advertising costs, mercury recycling costs, and travel for the 28 Massachusetts and NH communities. No additional money is being budgeted to purchase additional thermometers since the facility still maintains an adequate inventory.

E. Contractor Device Collection Program

Massachusetts Law (Chapter 190 of the Acts of 2006) states that thermostats/switches with silver liquid in glass cylinder must be handled as either a hazardous waste or Universal Waste. (<https://malegislature.gov/Laws/SessionLaws/Acts/2006/Chapter190>)

A law enacted in 2014 in Massachusetts requires any person or contractor who replaces a mercury-containing thermostat to deliver it to an appropriate collection site to be recycled. The bill also mandates that as of October 30, 2014 no HVAC wholesale distributor shall sell or distribute any thermostat unless the wholesaler participates as a collection site to recycle mercury thermostats.

1. Activity Description

A significant portion of mercury contained in the municipal waste stream is entering through the improper management/disposal of mercury containing thermostats/switches. While programs are available for the recycling and reclamation of these products, participation by the wholesalers, HVAC trades people and consumers are limited, at best.

Covanta will continue to distribute thermostat collection containers to wholesale distributors of thermostats in the Covanta contract municipalities who wish to participate in the Covanta recycling program but have not yet signed-up to join. Covanta has an inventory sufficient to supply all the wholesale distributors of thermostats within the Covanta contract municipalities that wish to participate.

Additionally, Covanta will continue to offer an added incentive to encourage the HVAC and other trades people to return end-of-life thermostats for recycling. Covanta has designed and is implementing a program that is offering a \$5.00 cash "incentive" to trades people (plumbers, electricians, HVAC technicians, fuel oil dealers, etc.) in the Covanta contract municipalities for each mercury thermostat returned for recycling.

Covanta is also offering to set-up thermostat recycling at retail locations in the Covanta contract municipalities that would like to participate. GSG Supply Inc and FW Webb of Haverhill have already joined join this program. The website may be viewed at: (<http://maps.env.state.ma.us/dep/arcgis/js/templates/SafeMercuryDisposal>).

While there is no financial incentive for the retail business to agree to participate, Covanta will supply all materials that are necessary (mercury spill kits, buckets, flyers, stickers, posters, newspaper advertisements) to participants at no charge and will cover all costs associated with the collection and recycling of the mercury thermostats.

Additionally, display ads will be placed in local newspapers to publicly recognize the wholesale and retail participants in the program for their leadership and commitment to their community. Covanta will work with building inspectors to insure information on recycling of mercury products is part of the permitting process.

Float switches from older sump pumps, bilge pumps and septic systems also historically contained mercury. Covanta will investigate with contractors potential sources of these

items and their recycling in the current Massachusetts & NH contract communities.

2. Activity Outreach

Covanta will hold informational meetings for the HVAC industry, utilizing, where possible, their trade associations, designed to gain their support and participation in the thermostat recycling program. Covanta will also utilize outside consultants to aid in contacting and recruiting participants for this program. Covanta will also ask local building inspectors to require recycling of mercury products as part of their permit process. As part of the MSP VII, Covanta will contact the utility companies operating in our service area to coordinate efforts at digital thermostat promotion and mercury thermostat replacement.

3. Activity Evaluation

This activity will be measured and evaluated by documenting the equipment provided, rebate incentives/grants awarded and determining the amount of waste collected and the equivalent amount of mercury diverted from the waste stream. A summary of this information will then be provided in the MSP annual report.

4. Activity Budget

For the MSP VII, Covanta is budgeting \$5,000/ year for this activity for a three year total of \$15,000. Costs will cover advertising, mercury recycling costs, and costs of the recycling rebate incentive grants.

F. School Mercury Clean Out Program

1. Activity Description

As described in previous MSPs, Covanta has been conducting mercury and mercury product cleanouts at schools located with the contract communities. These activities will continue for additional schools during the next 3 year MSP VII.

The goals of this activity are to remove a potential hazard from schools and increase the participating school administration awareness of mercury, health and environmental issues regarding mercury content products, and the potential impacts of improper disposal of mercury containing products

The clean-out program will continue to include the following: initial contact, school staff meeting, securing participation agreement from administration, mercury inventory, mercury training for staff (if requested), ordering of replacement products, arranging for safe pick up of mercury materials, and follow up, including assessment of effectiveness in terms of total amount of mercury and mercury products collected.

Under MSP VII, this service will be offered to public and private schools in contracted towns. In addition, Covanta will support other school cleanouts coordinated by MassDEP and other agencies for its communities.

2. Activity Outreach

Outreach for this activity will consist of making initial contact, having school staff meeting, securing participation agreement from administration, conducting mercury inventory, and providing mercury training for staff.

3. Activity Evaluation

This activity will be measured and evaluated by documenting the outreach activities conducted and determining the amount of waste collected and the equivalent amount of mercury diverted from the waste stream. A summary of this information will then be provided in the MSP annual report.

4. Activity Budget

Based on costs observed in past plans, Covanta finds that the average cost associated with mercury school cleanout programs, including labor, removal and recycling of mercury products and purchase of replacement products is approximately \$3000 per school for each cleanout. Covanta anticipates conducting school cleanouts at \$10,000/year, over the 3 year term of the MSP VII for a total budget of \$45,000.

G. Health Care Facility Mercury Clean Out Program

1. Activity Description

In MSP VII, Covanta will continue to conduct cleanout program for various types of health care facilities including hospitals, clinics, medical professional offices, nursing homes, etc. This program will be modeled after the school cleanout program detailed above. New to this program will be veterinarian facilities.

The goals of this activity are to remove a potential hazard from these clinics and increase the participating clinic's staff awareness of mercury, health and environmental issues regarding mercury content products, and the potential impacts of improper disposal of mercury containing products.

The clean-out program will continue to include the following: initial contact, staff meeting, securing participation agreement from facility management, mercury inventory, mercury training for staff (if requested), ordering of replacement products, arranging for safe pick up of mercury materials, and follow up, including assessment of effectiveness in terms of total amount of mercury and mercury products collected.

Under MSP VII, this activity will attempt to target five (5) facilities per year. Only facilities located in Covanta contract communities will be targeted.

2. Activity Outreach

Outreach for this activity will consist of making initial contact, having staff meeting, securing participation agreement from management; conducting mercury inventory; and providing mercury training for staff.

3. Activity Evaluation

This activity will be measured and evaluated by documenting the outreach activities conducted and determining the amount of waste collected and the equivalent amount of mercury diverted from the waste stream. A summary of this information will then be provided in the MSP annual report.

4. Activity Budget

Covanta finds that the average cost associated with mercury cleanout programs, including labor, removal and recycling of mercury products and purchase of replacement products is approximately \$3,000 per facility for each cleanout. Covanta will budget similarly for this activity. The budget for facility cleanouts set at \$15,000/year, over the 3 year term of the MSP VII will be \$45,000.

IV. Proposed MSP VII Budget 01/1/18-12/31/20

The MSP VII covers the 3 year period of January 1, 2018 - December 31, 2020.

In 2016, approximately 597,117 tons of waste was processed at the Covanta Haverhill facility.

The cost of implementing the proposed mercury diversion program will not exceed the \$0.50 per ton value as per the MA DEP's Guidance. Therefore, the budget for MSP VII cannot exceed \$298,558.

As proposed, Covanta Haverhill is budgeting \$282,000\year for a total of \$846,000 for MSP VII.

As the program continues to be implemented, Covanta will assess its effectiveness with the intention of modifying the MSP VII, as necessary, in conjunction with the MassDEP.

While actual expenditures may change somewhat between the categories to make necessary mid-course adjustments that enhance overall program effectiveness, it is anticipated that the relative budget priorities should remain proportionately similar to that presented above. The budget breakdown is provided in Appendix B.

V. MSP VII Activity Timeline 01/01/18 - -12/31/20

In general, the time line for the 01/01/18-12/31/20 MSP VII is as follows:

1st Quarter 2018: Continue ongoing program operations and continue to approach and implement collection programs in remaining Covanta contract communities; schedule and hold thermometer exchanges; continue to do outreach in the healthcare; continue with the implementation of the school mercury clean out program; continue outreach work with wholesalers, retailers and trades-people for the thermostat "rebate" collection program; continue to follow-up with any remaining municipalities that have not taken advantage of the Covanta Universal Waste Shed purchase/reimbursement program.

2nd Quarter 2018: Schedule collections for spring 2013; continue outreach work with wholesalers, retailers and trades-people for the thermostat "rebate" collection program; continue with the implementation of the school mercury clean out program; continue to hold informational meetings in various communities to explain the Covanta program; review data.

3rd Quarter 2018: Continue to work with the healthcare communities; continue with the implementation of the school mercury clean out program; continue outreach work with wholesalers, retailers and trades-people for the thermostat "rebate" collection program; continue to work with the municipalities on mercury product collections; hold informational meetings in various communities to explain the Covanta program.

4th Quarter 2018: Continue to work with the healthcare communities; continue outreach work with wholesalers, retailers and trades-people for the thermostat "rebate" collection program; continue with the implementation of the school mercury clean out program; continue to work with the municipalities on mercury product collections; hold informational meetings in various communities to explain the Covanta program and the goals for the coming year; begin process of reviewing data, writing and submitting the annual report.

1st Quarter 2019: Continue planning and conducting thermometer swaps/exchanges; continue work on the Universal Waste Shed procurement program; continue work on the thermostat "rebate" collection program; continue with contractor of school mercury clean out program; continue outreach and implementation of mercury collection-day program in remaining contract communities.

2nd Quarter 2019: Continue implementation of the mercury collection/recycling programs in the contract communities; continue to plan and hold thermometer swaps/exchanges in Covanta communities; continue to work with communities interested in procuring Universal Waste Sheds; continue work on the thermostat "rebate" collection program; continue to hold informational meetings in various communities to explain the Covanta program and the goals for the coming year; continue with the implementation of the school mercury clean out program.

3rd Quarter 2019: Continue working with communities to set-up mercury product collection events; continue work on the thermostat "rebate" collection program; continue with the implementation of the school mercury clean out program; continue outreach efforts to the healthcare; continue to hold informational meetings in various communities to explain the Covanta program.

4th Quarter 2019: Continue ongoing program operations and continue to approach and implement collection programs in remaining Covanta contract communities; schedule collection events in additional communities; schedule thermometer exchanges; hold informational meetings for the healthcare; continue with the implementation of the school mercury clean out program; continue outreach work with wholesalers, retailers and trades-people for the thermostat "rebate" collection program; follow-up with municipalities that have not taken advantage of Universal Waste Shed purchase/reimbursement; review data and prepare annual report

1st Quarter 2020: Continue planning and conducting thermometer swaps/exchanges; continue work on the Universal Waste Shed procurement program; continue work on the thermostat "rebate" collection program; continue with contractor of school mercury clean out program; continue outreach and implementation of mercury collection-day program in remaining contract communities.

2nd Quarter 2020: Continue implementation of the mercury collection/recycling programs in the contract communities; prepare schedule for spring collection events, continue to plan and hold thermometer swaps/exchanges in Covanta communities; continue to work with communities interested in procuring Universal Waste Sheds; continue work on the thermostat "rebate" collection program; continue to hold informational meetings in various communities to explain the Covanta program; continue with the implementation of the school mercury clean out program.

3rd Quarter 2020: Continue working with communities to set-up mercury product collection events; finalize schedule of 2012 collection events; continue work on the thermostat "rebate" collection program; continue with the implementation of the school mercury clean out program; continue outreach efforts to the healthcare; continue to hold informational meetings in various communities to explain the Covanta program and the goals for the coming year.

4th Quarter 2020: Continue ongoing program operations and continue to approach and implement collection programs in remaining Covanta contract communities; schedule collection events in additional communities; schedule thermometer exchanges; hold informational meetings for the healthcare; continue with the implementation of the school mercury clean out program; continue outreach work with wholesalers, retailers and trades-people for the thermostat "rebate" collection program; follow-up with municipalities that have not taken advantage of Universal Waste Shed purchase/reimbursement; review data and prepare annual report.

VI. Measurement and Evaluation

A means of accounting for the materials collected from each diversion program and monies expended for each program will be built into each program implemented. This can include record keeping at each event, tracking of the total amount of material diverted to mercury recycling, number of vehicles, and estimates of the amount of mercury collected, etc.

Complete Recycling Solutions located in Fall River, MA, furnishes actual counts of materials (numbers of thermostats, thermometers, switches, etc) diverted through the Covanta collections programs. This enables Covanta in their annual reports to use a more standardized and consistent conversion method when calculating the mercury content in the materials diverted. Contained in Appendix C is the Mercury Conversion Factor for Products sheet.

The collection of this data and feedback will allow for program adjustments, fine-tuning and assessment of program effectiveness and will be utilized when preparing the annual reports.

As the program is implemented, Covanta will continuously assess its effectiveness and review the timeline with the intention of adopting modifications, in consultation with the MADEP, as needed.

IV. PROGRAM REPORTING AND SCHEDULE

Program Reporting. Covanta will prepare and submit annual reports to the Department summarizing the results of the Material Separation Plan Program. These annual reports will be based on a calendar year basis (January through December) and be submitted by February 15th of the year following or by an alternate schedule approved by the Department.

Reports will include a description of activities completed by task, mercury amounts reclaimed on the program and costs expended. Mercury amounts will be broken down by type of mercury articles and elemental mercury in two matrices: 1) mercury devices/amounts by Covanta contract community and 2) mercury devices/amounts by Plan Task. Costs expended will be compared versus costs budgeted and significant differences will be detailed in the annual report text.

APPENDIX A

CET Thermostat Collection Program



Outreach/Education Program Proposal for Covanta Haverhill

The following is a menu of services designed to help Covanta Haverhill deliver “Outreach and Education” as planned under MSP 7, to be provided by the Center for EcoTechnology (CET). CET has prepared this menu of service offerings with the understanding that CET and Covanta Haverhill will coordinate to select priority areas to focus on. Not all of the menu items will necessarily be addressed in any one year, but instead this provides a range of opportunities that can be tested and modified over time to appropriately maximize the use of resources to best help Covanta Haverhill reach its MSP goals. As new opportunities or project ideas present themselves, this plan can be modified.

The Center for EcoTechnology (CET) and Covanta Haverhill will continue their work together to conduct outreach and program implementation to divert mercury from the waste stream.

1. Potential outreach to Local Businesses and Residents through Building Inspectors

In 2015, CET researched inspection forms for renovation and demolition permitting to find examples that included identification and proper handling of mercury containing products. Work to continue in 2017 and beyond with presenting the examples to building inspectors in one-on-one meetings. (Also to address in meeting: contractor incentive program brochure distribution, display posters on mercury containing items, collect thermostats at counter)

Covanta Mercury Containing Item poster also may be distributed to Town Hall public areas. Re-design is possible to customize for specific building department messaging.

2. HVAC Contractors and Builders Education

CET investigated possible educational opportunities at New England Tractor Trailer Training School’s HVAC department as well as compiled a list of technical high schools in the Haverhill communities that offer HVAC trainings.

CET drafted a one page fact sheet on the toxicity of mercury, movement of mercury through the food chain, where mercury might be found and how to properly dispose of it. This sheet could be used as a handout or expanded into a classroom lesson. CET will pursue next steps in speaking with curriculum coordinator(s) to determine interest/need/opportunity, further develop curriculum materials and classroom presentation as well as deliver the presentation.

The challenge to HVAC and Builder Education is geographic, as the Material Separation Plan only covers certain contracted communities. CET will continue to explore educational opportunities.

3. Wholesale Supply Houses – Tabling



CET continues to contact the distributors for tabling events at the individual branch locations throughout the Covanta Haverhill communities to connect directly with contractors and promote the thermostat recycling incentive program.

4. Permitted Contractor Outreach

CET to continue direct telephone outreach to tradesmen. In 2016, CET conducted outreach to 493 HVAC contractors in Haverhill communities from the list compiled in 2014 and updated in 2016 for the current contracted communities and has contacted approximately 400 more in 2017. If reached, contractors are invited to participate in the mercury thermostat recycling incentive program. Contractors work directly with Covanta Haverhill to initiate and participate in the program.

CET to compile a list of Electricians and Heating Oil Contractors to see if they handle mercury containing thermostats and have interest in participating in the recycling incentive program.

New ideas for contractor outreach include information in the hyper-local digital newspaper, Patch, municipal Facebook postings, and Chamber of Commerce contacts. CET will continue to investigate new outreach possibilities.

5. MSP Program Financial Distributions

CET will continue to assist Covanta Haverhill with managing and processing payments for thermostat bounties as well as various community outreach event registration fees. CET will compile and update a list of participating contractors.

6. TRC Partnership

CET will assist in developing partnership with TRC to expand thermostat collection in Covanta Haverhill communities. Currently, Covanta Haverhill services HVAC stores who collect thermostats from their customers. Covanta corporate is working with TRC in other locations that have a slightly different arrangement with their vendors, and the details are not yet specified for the Covanta Haverhill communities.

7. Fluorescent Bulb Recycling

CET/RecyclingWorks receives periodic hotline inquiries for fluorescent bulb recycling. Coordinate with Covanta Haverhill for municipal and commercial recycling opportunities.

8. Adapting of Covanta SEMASS materials for use in Haverhill territory

CET worked with Covanta SEMASS to develop materials that could be adapted and distributed in Haverhill communities including a community customizable Difficult to Manage Materials digital booklet, Fire Department mercury product, spill clean-up informational poster, and Council on Aging elemental mercury informational bookmarks. CET can adapt these materials as requested.



9. Distribution of SEMASS Best Management Practices to Operate a Universal Waste Shed video

Utilizing existing and new municipal contacts in Building Departments, Public Works Departments and Boards of Health as well as the Municipal Assistance Coordinators, distribute the BMP to Operate a Universal Waste Shed video.

10. Newsletter content

Assist with or initiate Covanta Haverhill community Newsletter by generating Covanta Haverhill content or using content from Covanta SEMASS that would be of interest in Haverhill communities.

11. Assistance for communities

Could include any or all of the following: attendance at quarterly stakeholder meetings, assistance updating mercury recycling information on municipal webpages, customizing educational posters and mailing inserts for mercury containing item identification and proper disposal options, outreach for elemental mercury identification and safe disposal to groups at Council on Aging's and American Legion's.

APPENDIX B

MSP VII Budget Summary

COVANTA HAVERHILL
Summary of MSP VII Budget

IV. Spreadsheet Summary of MSP Budget and Expenses

No. of Contract Communities Served		24	
Tons MSW processed		600,407	
		Budget Based on 1 year of MSP IV	MSP VII
IWSA Outreach/Education			
	IWSA	47,500	
Subtotals per Activity		47,500	142,500
Facility-Level Outreach/Education			
	MSP Coordinator	134,000	
	Consultant Outreach (Cuoco & Cormier)	4,500	
	Special Outreach	10,000	
Subtotals per Activity		148,500	445,500
Hg Collection Routes and Hg Collection Events			
	Ads, Outreach, Recycling Contractor, labor	33,000	
Subtotals per Activity		33,000	99,000
Thermometer Exchanges			
	Thermometer Exchange Program	4,000	
Subtotals per Activity		4,000	12,000
Municipal Mercury Recycling Reimbursement			
	Municipal Mercury Recycling Reimbursement	14,000	
Subtotals per Activity		14,000	42,000
Thermostat Collections			
	Tradesmen Incentives & Hg Recycling	5,000	
Subtotals per Activity		5,000	15,000
School Mercury Cleanouts			
	Recycling & Outreach	15,000	
Subtotals per Activity		15,000	45,000
Health Clinic Mercury Cleanouts			
	Recycling & Outreach	15,000	
Subtotals per Activity		15,000	45,000
MSP VII TOTALS		\$282,000	\$846,000

APPENDIX C

Mercury Conversion Factors for Products

Mercury Conversion Factors

9/28/17

Used in reporting mercury diverted through Material Separation Plans Effective July 1, 2004

Mercury Items

Grams of Mercury

All amounts shown are “per unit”, unless otherwise noted.

4ft. Fluorescent Lamps	20 mg (5mg per linear foot)
Fever Thermometers	1g
Lab Thermometers	3g
Sphygmomanometers (Blood Pressure Monitors)	110g
Barometers	500g
Sling Psychrometers	6g
Thermostats	4.5g
Switches (small)	4g
Switches (large)	6g
Button Cell Batteries	9mg (40 batteries per ounce) 5.76 gr per pound
U-Tube Fluorescent Lamps	17.5mg
Circular Bulb Fluorescent Lamps	17.5mg
Compact Lights	17.5mg
HID Lamps	35mg

Additional factors from SEMASS 2016 Annual Report

Float Switches	4.5 gr
UV Tanning Bulbs	30 mg